Q1: Given that

$$(\boldsymbol{Temperature_{Fahrenheit}} - 32) \times \frac{5}{9} = \boldsymbol{Temperature_{Celsius}}$$

a. What is 100 degrees Fahrenheit in Celsius?
b. What is 50 degrees Fahrenheit in Celsius?

Q2: A knock-out table-tennis tournament with a certain number of participants is taking place. In each round, each player has a game; the loser is disqualified, and the winner continues to the next round.

The formula for the total number of players needed for a tournament with a given number of rounds follows:

$$\boldsymbol{Number\ of\ Players} = 2^{(\boldsymbol{Number\ of\ Rounds}-1)}$$

a. If a tournament has 5 rounds, how many players would need to participate?
b. If a tournament has 7 rounds, how many players would need to participate?

Answers:

Q1a. $(\mathbf{100} - 32) \times \frac{5}{9} = 68 \times \frac{5}{9} \approx 37.78^{\circ}C$

Q1b. $(\mathbf{50} - 32) \times \frac{5}{9} = 18 \times \frac{5}{9} = 10^{\circ}C$

Q2a. $2^{(\mathbf{5}-1)} = 2^4 = 16$

Q2b. $2^{(7-1)} = 2^6 = 64$